## **EXHIBIT 38**

## Filed Under Seal

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1	UNITED STATES DISTRICT COURT FOR THE DISTRICT OF MINNESOTA	
2	FOR THE DISTRICT OF MINNESOTA	
3	Civil Action No. 0:18-cv-01776-JRT-HB	
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5	IN RE:	
6	PORK ANTITRUST LITIGATION,	
7	/	
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10		
11	DEPOSITION OF HAL SINGER	
12	HAL SINGER	
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14		
15	Friday, June 24, 2022 9:39 a.m 6:03 p.m.	
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17	Remote Location	
18	Via Zoom Videoconference All Parties Remote	
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24	Stenographically Reported By:	
25	Erica Field, FPR	

coordination that was done on an explicit basis, right?

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3 The allegation by plaintiffs is Α. 4 that there was a price-fixing conspiracy that 5 involved the sharing of competitively sensitive information through Agri Stats, 6 7 and, you know, if you go into the complaint, 8 they'll talk about how that agreement touched many aspects of the conduct of the firms at 9 10 issue and how they were able to achieve a

reduction in output in a coordinated way.

But I think that the centerpiece, at least as I understand it and the way that I've written up my report, is the information exchange -- antitrust competitive information exchange.

- Q. Okay. So there was an agreement to exchange information through Agri Stats, right?
- A. Well, as alleged in the complaint.

  You know, I'm loathed to tell you that there

  was an agreement. Whenever you ask me today

  about whether there was an agreement, I'm

  qoing to tell you that it is alleged.
  - Q. Well, let's come back -- you used

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1	"challenged conduct" maybe dozens of times in	
2	your report, and I want a definition of what	
3	you meant by it.	
4	So is your your answer is just	
5	whatever happened to be in the complaint, or	
6	does challenged conduct actually mean	
7	something specific to you?	
8	A. It means it means something	
9	well, I don't know if those are it could	
10	be both, right. But I give you my best	
11	understanding of the challenged conduct in	
12	Paragraph 2. And so I can't do any better	
13	than that here, and I've tried to paraphrase	
14	what's in Paragraph 2.	
15	And that's my that's my	
16	understanding of the challenged conduct.	
17	It's a price an alleged price-fixing	
18	conspiracy.	
19	Q. Well, let's step back for a	
20	minute.	
21	So an agreement, a conspiracy,	
22	whatever, an exchange of information, is that	
23	a per se violation in and of itself?	
24	MR. RISSMAN: Objection. That	
25	calls for a legal conclusion.	

I don't think that you want 1 Α. Yeah. 2 to come to me for that as to how this is 3 going to be adjudicated. I mean, I feel like 4 that's ultimately going to be the Court's 5 decision as to whether or not to apply the per se -- or rule of reason standard. 6 7 BY MR. COLEMAN: Is -- in your mind, is everything 8 Ο. you define as challenged conduct unlawful? 9 10 MR. RISSMAN: Object to form. And calls for a legal conclusion. 11 12 Right. I don't have any opinions Α. 13 with respect to what -- what is unlawful. 14 have opinions as to whether or not the conduct was anticompetitive. I can answer 15 16 that question, but I can't -- I can't go into areas of law. 17 BY MR. COLEMAN: 18 19 Ο. And -- well, answer that question, 20 then. 2.1 Is all of the challenged conduct 22 anticompetitive in economic terms? 23 Α. Oh, I concluded that the challenged conduct was anticompetitive using 24 25 both my qualitative assessment and my

39 1 quantitative methods, yes. 2 Does challenged conduct include 3 increasing -- defendants increasing exports 4 of pork products? 5 Well, if you go into the Α. complaint, you will find allegations that the 6 7 agreement implicated the defendants' decision 8 making with respect to exports, and there were, in fact, in the record episodes of 9 10 coordination on the decision of how much to 11 export. 12 But I don't consider exporting to 13 be a restraint that is being challenged in 14 the case. In other words, my mandate was to 15 remove the challenged conduct, which I 16 interrupted to mean the centerpiece was this price-fixing conspiracy held together by 17 information exchange. 18 19 In other words, no one -- no one said, Dr. Singer, I want you to assume that 20 2.1 exporting is zero in the but-for world. 22 one asked me to treat exporting as if it were 23 a restraint. 24 Now, exporting would likely fall 25 in the but-for world as you remove the

1 challenged conduct. But I don't consider 2 exporting to be a restraint that I should 3 remove when modeling the but-for world. 4 Ο. So it -- just so the record Yeah. 5 is clear, the but-for world is the world in which there was no conspiracy or challenged 6 7 conduct, right? 8 Α. Correct. So in the but-for world, we assume 9 Q. 10 away any unlawful coordination or any 11 challenged conduct, right? 12 Α. That's fair. 13 And so at least as to exports, do Q. 14 you have an opinion in that but-for world 15 whether exports would have stayed flat or would have increased? 16 17 So what I've -- what I've quantified is the extent to which domestic 18 production would be -- would have been 19 20 greater in the but-for world absent the challenged conduct. 2.1 22 What I have not done is said where 23 would that come from. Would it necessarily 24 come from exports, or would it be new supply.

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I haven't -- I haven't -- I haven't said

60 1 Objection. MR. RISSMAN: 2 I think the complaint alleges that 3 the agreement touched the decision making 4 with respect to liquidation. But -- and I 5 said -- I will say the same thing for liquidation that I said for exporting. 6 7 I'm not removing liquidation in 8 the but-for world. Right. I do not set liquidation to zero in the but-for world and 9 10 then solve for the price fix. I do not set exporting to zero in the but-for world. 11 12 is not a restraint along the lines of the 13 restraint that I have removed, which is the 14 sharing of competitively sensitive 15 information among the defendants via 16 Agri Stats. 17 So just to put a bow on this, there will be some liquidation in the but-for 18 19 world. There will be some exporting in the 20 but-for world. It's not a restraint to be 2.1 eliminated in the but-for world when I said 22 about modeling the but-for world and the 23 challenged conduct. 24 BY MR. COLEMAN: 25 So how much would sows -- the sow Ο.

61 1 herd have been reduced in the but-for world? 2 MR. RISSMAN: I'm going to 3 instruct the witness that if he hasn't 4 formed an opinion on that, he 5 shouldn't answer. BY MR. COLEMAN: 6 7 Ο. Let's set that as a precursor. Did you form an opinion on how 8 9 much the sow herd would have been reduced in 10 the but-for world? 11 A. I have not. I've estimated, like 12 I said, how much more domestic supply would have occurred in the but-for world absent the 13 14 alleged conspiracy, and I have not performed 15 a decomposition as to how that output increase would be achieved. 16 17 But I think it's reasonable to infer that it would be achieved through some 18 19 combination of the mechanisms that were 20 employed by the defendants to reduce domestic 2.1 output. 22 So just coming back to the basic Ο. 23 question as to whether or not you formed an 24 opinion about how much the sow herd would 25 have been reduced, if at all, in the but-for

62 1 world. 2 The answer is you did not form an 3 opinion on that subject; is that right? 4 Well, I want the record to be very Α. 5 clear. I estimated with -- with great precision, in my opinion, the extent of the 6 7 output reduction that could be attributed to the challenged conduct. I have not performed 8 a decomposition of that output reduction 9 10 according to the three primary mechanisms the 11 defendants used to reduce domestic supply. 12 I have not done that. I don't 13 think such a decomposition is necessary, and I will leave it at that. 14 15 Ο. Well -- and I'm just a lawyer. I'm not sure I understand what decomposition 16 I guess what I want to know is did your 17 model or any opinion that you formed in this 18 19 case allow you to assess whether sow herd 2.0 reductions would have occurred in the but-for 2.1 world? 22 Oh. The model doesn't tell us that, but I think just economic insight 23 24 analysis and review of the qualitative 25 record, all the institutional details, is

68 1 agreed on price? 2 No, I don't know what --3 Object to form. MR. RISSMAN: 4 Α. I don't know what you mean by 5 "agreed," but to an economist if -- if an information broker is exchanging 6 7 competitively sensitive information across to 8 defendants, and they utilize and rely on that information to effectuate a price increase 9 10 that otherwise would not have been possible, 11 and that is an anticompetitive price effect. 12 Now, if you want to call it -- I 13 think -- what was the word that you were 14 trying to use -- agreement -- you know, I'm 15 not offering opinions on agreements. 16 offering economic opinions. I will leave it 17 at that. BY MR. COLEMAN: 18 19 O. So when was the conspiracy formed? 20 Well, the complaint --Α. 2.1 Object to form and MR. RISSMAN: 22 foundation. 23 The complaint -- can you give me Α. 24 the question again? 25

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1	BY MR. COLEMAN:	
2	Q. When was the conspiracy formed?	
3	MR. RISSMAN: Same objection.	
4	A. The complaint asserts that the	
5	conduct period began in 2009 with the release	
6	of certain Agri Stats reports, and so that's	
7	why I define the conduct variable in my model	
8	to begin in 2009.	
9	BY MR. COLEMAN:	
10	Q. And is that why you treated 2008	
11	as a preconspiracy benchmark year?	
12	A. Yes.	
13	Q. And so you understood that 2008	
14	predated the conspiracy?	
15	MR. RISSMAN: Object to form.	
16	And calls for a legal conclusion.	
17	BY MR. COLEMAN:	
18	Q. Well, at least that's the	
19	assumption.	
20	MR. COLEMAN: I am sorry, Josh.	
21	Yeah. Go ahead.	
22	I apologize to the court	
23	reporter, too.	
24	Did you catch his objection?	
25	THE STENOGRAPHER: Yes.	

70 1 BY MR. COLEMAN: 2 And so your model -- you can 3 strike the previous question. 4 Your model assumes that 2008 was a 5 preconspiracy year, right? MR. RISSMAN: Object to form. 6 7 The model does treat 2008 as a Α. 8 preconspiracy year. That is correct. And I recognize that I've -- there is some evidence 9 10 in the record to suggest that Agri Stats had already begun, at least through its marketing 11 12 campaign, to -- to move -- place the wheels 13 in motion to form this alleged conspiracy or 14 this cartel. 15 And to the extent that any prices in 2008, which I've considered to be an edge 16 year, reflect the effects of that preliminary 17 coordination, then my benchmark -- my clean 18 19 benchmark will naturally produce a 20 conservative estimate of the price effect 2.1 owing to the conspiracy. 22 BY MR. COLEMAN: 23 So you've mentioned that harvest 0. agreement was one of the mechanisms used to 24 25 reduce the domestic supply of pork.

103 1 could give you a very precise estimate of the 2. duration. 3 0. And you are not aware of anything 4 stopping independent producers from expanding 5 their sow herd in response to cutbacks by Smithfield or any other defendant, right? 6 7 MR. RISSMAN: I will instruct the witness to answer to the extent he 8 9 has an opinion about that. 10 Α. I don't have an opinion on that. 11 BY MR. COLEMAN: 12 What's a gilt? Q. 13 I think we have -- it's a female 14 pig that has -- is not ready to deliver 15 piglets or something like that. 16 Ο. And do you know whether gilts are capable of becoming sows? 17 Are they incapable? 18 Α. 19 O. Capable. 20 I think eventually they might be capable, but I think that that is the word to 21 22 describe them at a certain stage of their 23 lives. 24 Ο. You don't know how long it takes 25 for a gilt to become a sow or capable of

104 1 becoming a sow? 2 I've -- I've read that -- I've 3 read that, I'm sure, in putting together the 4 background section, but I can't give you that 5 statistic off the top of my head. Do you know anything about 6 Smithfield's inventory or Tyson's inventory 7 8 of gilts on their farms when they liquidated sows? 9 10 Α. Sitting here, no, I can't give you a characterization of that. 11 12 Q. Do you know anything about circovirus? 13 14 No, I've studied other viruses. Α. 15 But circa virus? Circovirus? 16 O. 17 Oh, circovirus. I looked at two 18 other viruses, but not circo, I don't think. 19 Ο. Do you know whether circovirus and the vaccine to reduce or eliminate circovirus 20 2.1 had any impact on supply during the relevant 22 time period? 23 No, but to the extent that it 24 affected the pig mortality rate, it would be 25 controlled for in my pig mortality variable,

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     but I don't know enough about that virus.
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                You understand that pig diseases
          0.
 3
     can have significant impacts on the supply of
 4
     hogs and ultimately the supply of pork,
 5
     right?
 6
          Α.
                Correct.
 7
          Ο.
                Could you turn to Tab 62?
 8
                MR. RISSMAN: Give me just a
 9
          second because it's in the back of
10
          this.
11
                MR. COLEMAN:
                               I had the same
12
          problem.
                     The binder is it too big.
13
                Jacob, you could go ahead and
14
          call it up on the screen.
     BY MR. COLEMAN:
15
16
          0.
                Are you with me?
17
          Α.
                Yes.
                And what's been marked as
18
          O.
19
     Exhibit 3 is a USDA report with the title
20
     "Users Guide to USDA's LMR Hog Price
     Reports, "right?
21
22
             (Exhibit 3 was marked for
23
             identification.)
24
          Α.
                Yes.
25
     BY MR. COLEMAN:
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June 24, 2022 247 1 the -- during the conduct period. It is 2 telling us what the effect is across the 3 entirety of the conduct period. So I will 4 leave it that. 5 And can your model tell us the Ο. amount of overcharge in any particular time 6 7 frame, like, say, a given month in a given year at any point in the time period? 8 Well, you could -- using my model, 9 Α. 10 you could go make a prediction within a 11 particular month if you were very interested 12 in a particular month for some reason. could make a prediction of what the prices 13 14 would have been in the absence of the 15 challenged conduct, and you can compare those prices to the actual prices, if you were so 16 17 inclined. Now, there's no apriority reason 18 19 to do that given that the allegations are for

Now, there's no apriority reason to do that given that the allegations are for an alleged conspiracy that spanned from 2009 to 2018. So number one, you wouldn't be testing the theory of the case, the theory of harm.

And number two, I haven't seen any

-- I'm not aware of any record evidence that

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248 1 would suggest that we should go looking for a 2 structural break in January of 2010; that is, 3 there's no suggestion that the information 4 exchange was any more or less wholesome in 5 January of 2010. The information exchange of 6 7 competitively sensitive information was the 8 same across the challenged conduct -- across the conduct period. 9 10 Q. Do you know whether every defendant subscribed to all the Agri Stats 11 12 report throughout the time period? 13 Α. I got a chart that shows you which 14 ones each defendant subscribed to in each 15 But, you know, I know you want this to be a memorization test, but I can't tell you 16 17 which boxes are checked by memory. We can go to the table. 18 Q. Coming back to 151 and beta one in 19 20 that line of questioning, so does it mean --21 is it your opinion that, for example, the 22 direct purchasers of class products paid a 12.8 percent overcharge in every month from 23 24 January of 2009 to June of 2018? 25 I think that the model I've

249 1 constructed, which constrains the parameter 2 to be the same across the challenged conduct 3 period -- the conduct period would suggest 4 that it was the same overcharge in each 5 month. That's correct. So in each incremental month from 6 Ο. 7 January 1, 2009, through the end of the 8 conspiracy period, it's your opinion that there was an overcharge of a specified 9 10 amount. 11 Here it's 12.8 percent for direct 12 purchasers of class products? I can conceive -- I think that in 13 14 reality that the inflation likely varied 15 slightly over time, but this model and this 16 specification, which constrains the parameter 17 to be the same across the entirety of the conduct period, the best prediction that I 18 19 would have for your favorite month, which is 20 January 2010, would be the parameter is 21 estimated. 22 So does it mean that -- it's not 23 my favorite month. I'm just picking that as an example, just to have a point of 24 25 reference.

1 But is your testimony -- your 2 opinion mean that regardless of the specific 3 actions that defendants took, your model 4 assumes that the alleged conspiracy had the 5 same effect in every month? No, that's not -- that's not what 6 7 The model as constructed here is it means. 8 seeking to estimate an effect that stretched over the entirety of the challenged conduct 9 10 for the conduct period. The plants are not asserting a sequence of mini conspiracies, 11 12 you know, lasting one month apiece. If they were, if that were the 13 14 allegation, you know, we could go out and 15 test for differential effects by month, but 16 they're not. They're alleging a single conspiracy that spanned the duration of the 17 conduct period, and I will leave it at that. 18 19 Ο. But the levers of the conspiracy 20 are multifaceted and -- whether it's exports or sow reductions or something else? 21 22 Or price hikes -- or price hikes, 23 yes. 24 0. And so is it your opinion 25 that regardless of what levers were pulled at